

REMARKS

The Final Office Action of June 13, 2005, has been received and reviewed.

Claims 1-17 are currently pending and under consideration in the above-referenced application, each standing rejected.

Reconsideration of the above-referenced application is respectfully requested.

Rejections Under 35 U.S.C. § 102

Claims 1-4, 6, 9, and 11-17 stand rejected under 35 U.S.C. § 102(e) for reciting subject matter which is purportedly anticipated by the subject matter described in U.S. Patent 6,019,165 to Batchelder (hereinafter "Batchelder").

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Batchelder describes a heat exchange apparatus with a heat source (*e.g.*, a semiconductor device), a thermal conductor and electrical insulator 14 that conducts heat from the heat source, and an active spreader plate 20 that receives heat from the thermal conductor and electrical insulator 14. Fig. 2; col. 4, lines 63-67. Heat is transferred into a heat transfer fluid sealed in flow channels 50 located inside the active spreader plate 20. Fig. 2; col. 5, lines 1-37.

Due to the nonlinearity of the interior flow channels 50 of the active spreader plate 20, the active spreader plate is "a rigid assembly of at least two patterned objects." Col. 4, lines 9-19. Thus, the active spreader plate 20 is fabricated as a group of separate elements that are subsequently secured to one another.

Independent claim 1, as amended and presented herein, recites a heat sink for assembly with a semiconductor device component. The heat sink includes a heat transfer element that is fabricated as a unitary structure, and includes at least one passageway with an internally confined portion that extends along a nonlinear path through the heat transfer element.

Batchelder does not expressly or inherently describe the active spreader plate 20 thereof as being “fabricated as a unitary structure.” Instead, the active spreader plate 20 of Batchelder is a “composite substrate” that comprises “a rigid assembly of at least two patterned objects . . .” Col. 4, lines 9-19; *see also* col. 5, lines 38-55. Therefore, Batchelder does not anticipate each and every element set forth in amended independent claim 1. As such, under 35 U.S.C. § 102(e), the subject matter recited in independent claim 1 is allowable over the subject matter described in Batchelder.

Each of claims 2-4, 6, 9, and 11-17 is allowable, among other reasons, for depending either directly or indirectly from claim 1, which is allowable.

Claim 2 is further allowable since Batchelder neither expressly nor inherently describes that at least a portion of a heat transfer element that has been fabricated as a unitary structure may include a plurality of adjacent, mutually adhered regions.

Claim 6 is additionally allowable because Batchelder includes no express or inherent description of a heat transfer element that is fabricated as a unitary structure including particles that are secured to one another.

Claim 16, which depends from claim 2, is also allowable since Batchelder does not expressly or inherently describe that at least a portion of a heat transfer element that has been fabricated as a unitary structure may include a plurality of superimposed, contiguous, mutually adhered layers.

Claim 9, which depends from claim 16, is further allowable because Batchelder lacks any express or inherent description of at least a portion of a heat transfer element that has been fabricated as a unitary structure from a plurality of sheets of thermally conductive material.

Claim 11, which depends from claim 9, is also allowable since Batchelder neither expressly nor inherently describes that at least a portion of a heat transfer element that has been fabricated as a unitary structure may include a plurality of sheets that are thermally bonded together.

Claim 12 is additionally allowable because Batchelder does not expressly or inherently describe a heat transfer element with a nonlinear passageway that is configured to permit airflow

therethrough. Instead, the description of Batchelder is limited to sealing a “heat transfer fluid” within flow channels 50.

Claim 14 is additionally allowable since Batchelder lacks any express or inherent description of a heat dissipation element (*e.g.*, fins 28) that includes a plurality of adjacent, mutually adhered regions comprising thermally conductive material.

Claim 17, which depends from claim 14, is further allowable because Batchelder neither expressly nor inherently describes a heat dissipation element that includes a plurality of superimposed, contiguous, mutually adhered layers.

It is respectfully requested that the 35 U.S.C. § 102(e) rejections of claims 1-4, 6, 9, and 11-17 be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

Claims 5, 7, 8, and 10 stand rejected under 35 U.S.C. § 103(a).

Batchelder in View of Tseng

Claim 5 stands rejected under 35 U.S.C. § 103(a) for reciting subject matter that is assertedly unpatentable over that the subject matter taught in Batchelder, in view of teachings from U.S. Patent 6,175,497 to Tseng (hereinafter “Tseng”).

Claim 5 is allowable, among other reasons, for depending from claim 1, which is allowable.

Batchelder in View of Rostoker

Claims 7 and 8 have been rejected under 35 U.S.C. § 103(a) for being drawn to subject matter that is allegedly assertedly unpatentable over teachings from Batchelder, in view of the teachings of U.S. Patent 5,814,536 to Rostoker et al. (hereinafter “Rostoker”).

Claims 7 and 8 are allowable, among other reasons, for depending from claim 1, which is allowable.

Batchelder in View of Fuller

Claim 10 is rejected under 35 U.S.C. § 103(a) for reciting subject matter which is purportedly unpatentable over that taught in Batchelder in view of teachings from U.S. Patent 5,529,379 to Fuller et al. (hereinafter "Fuller").

Claim 10 is allowable, among other reasons, for depending from claim 1, which is allowable.

Withdrawal of the 35 U.S.C. § 103(a) rejections of claims 5, 7, 8, and 10 is respectfully requested.


Entry of Amendments

It is respectfully requested that the proposed claim amendments be entered. The proposed amendments do not introduce new matter into the application, nor would they require an additional search. In the event that a decision is made not to enter the proposed claim amendments, entry thereof upon the filing of a Notice of Appeal in the above-referenced application is respectfully requested.

CONCLUSION

It is respectfully submitted that each of claims 1-17 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brick G. Power". The signature is fluid and cursive, with the first name "Brick" being more prominent.

Brick G. Power
Registration No. 38,581
Attorney for Applicant(s)
TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

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